

OBSTETRICAL ULTRASOUND UMBILICAL ARTERY DOPPLER AND AFI LIMITED PROTOCOL

BILLING CODES: UOBUA and UOBL (or UOBAI)

See OB Follow Up Protocol if growth requested.

Anatomy not cleared on prior will be evaluated at next growth ultrasound.

PATIENT PREP: None

IMAGES TO ACQUIRE:

- Fetal Heart Rate
- Fetal Position
- AFI as described below
- UA Dopplers as described below
- If AFI is low, also include
 - Stomach
 - Bladder

AMNIOTIC FLUID VOLUME:

- Calculate the AFI using four quadrant measurements.
 - Normal range of AFI is 8-20cm.
- For multiple gestations (twins, triplets, etc) measure the MVP. If Mono/mono gestation, use four quadrant measurements.
 - Normal range of MVP for multiples is 2-8 cm

UMBILICAL ARTERY DOPPLER: Done at 24 weeks or greater for FGR.

- Perform UA Doppler as requested, or if either of the following is determined-
 - AC is <10% or if EFW is <10%

FOR MULTIPLES –

- Di-Di Twins: Only sample UA Doppler in the FGR twin unless both are ordered.
- Mono-Di or Mono-Mono Twins: UA Doppler should be obtained for BOTH twins when one is FGR or as requested.
- Technique:
 - 3 spectral doppler samples of the umbilical artery are taken at the middle section of the umbilical cord.
 - The sample with the highest S/D ratio is documented in the OB report.

- Avoid being close to the fetus or placental cord insertions.
 - For multiples, if necessary, the cord can be traced from fetal cord insertion to ensure the proper fetal cord is documented in cases where it is challenging to determine which cord corresponds to a certain fetus. In this case, it should be clearly stated on the report that the doppler was obtain at the fetal end to accurately compare to prior and future measurements.
 - If a dramatic difference is seen in S/D ratios between exams, BOTH umbilical arteries should be sampled and compared. There are cases where one artery has normal flow, and the other is abnormal. Describe this in the report if this is the case.
- An Umbilical Artery S/D ratio of > 95th percentile is considered abnormal.
 - If absent end diastolic flow (or reversed diastolic flow) is seen, this needs to be reported urgently via a phone call to the clinical team before the patient leaves. The patient may be admitted.
 - Absent diastolic flow does not mean that the S/D is = 1 (same with reversed diastolic flow.) Report these as “Absent diastolic flow or Reversed diastolic flow”.

UMBILICAL ARTERY OB EXAM IMAGE LIST

| IMAGE | MODE |
|---|----------|
| FHR | M-Mode |
| Position | 2D |
| 4 quadrant AFI | 2D |
| UA Doppler x 3 | Spectral |
| <i>If AFI is low, include stomach and bladder</i> | |

UA DOPPLER AND AFI LIMITED PROTOCOL HISTORY

| | Date | Changes made | By whom |
|---------|------------|---|---|
| Created | 5/3/2022 | | Renee Betit Fitzgerald |
| Updated | 5/19/20322 | Added to Doppler section – -Do both twins if either is ordered -Ok to follow cord from abdomen to ensure correct fetus in multiples -Sample both arteries if big discrepancy between exams | Renee Betit Fitz |
| Change | 9/29/2022 | UA dopplers for Di-Di Twins only to be done on FGR twin. Mono-di/Mono-Mono will remain both twins | Manjiri Dighe and Edith Cheng |
| Added | 5/1/2023 | Added anatomy not cleared on prior will be evaluated at next growth ultrasound. | OB Protocol Meeting 4/27 Dighe, Cheng, Ma, Hitti, Shaun, Renee, Dalene |
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